4. Agriculture and Forestry

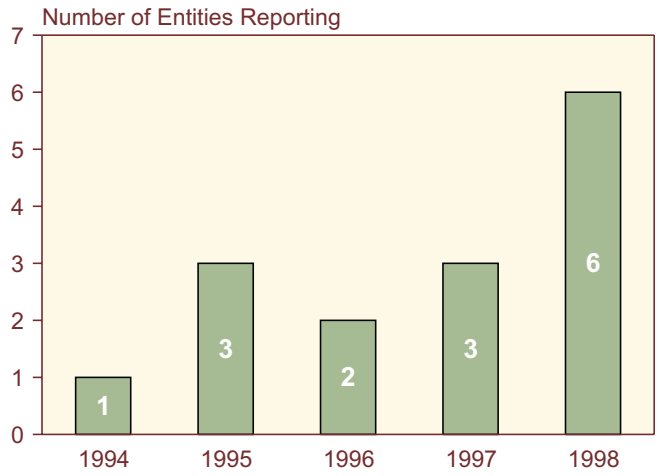
Who Reported?

Six agriculture and forestry sector organizations submitted reports for the 1998 data year (Figure 9). Four of these reporters—American Forests, the Urban Forestry Alliance, Whatcom Land Trust, and the World Parks Endowment—are nonprofit organizations that implement forestry projects in the United States and abroad. J.M. Gilmer and Company, Inc., is a real estate concern in Alabama, and Grayson Hill Farms conducts hydroponic and aquaculture farming operations in Illinois.

What Was Reported?

All the projects reported for the agriculture and forestry sector involved some kind of forestry activity, with one exception (Table 11). Grayson Hills Farms reported avoiding emissions of 1,575 metric tons of methane through the use of coal mine methane in a cogeneration system at its hydroponic and aquaculture farming operation. Although 97 of the agriculture and forestry projects (87 percent) were reforestation projects reported by American Forests, they accounted for only 2 percent of the total carbon dioxide equivalent emission reductions and carbon sequestration in 1998 reported for the sector. Three forest preservation projects reported by the Whatcom Land Trust and the World Parks Endowment accounted for 96 percent of the sector's emission reductions and sequestration. (A fourth forest preservation project, reported for the first time this year, sequestered carbon only in years prior to 1998.) Also reported were 8 afforestation projects (American Forests and J.M. Gilmer and Company), and single projects involving urban forestry (Urban Forestry Alliance) and short-rotation woody crops (J.M. Gilmer and Company).

Figure 9. Number of Agriculture and Forestry Sector Entities Submitting Reports, 1994-1998



Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Table 11. Number of Projects and Emission Reductions Reported by Agriculture and Forestry Sector Reporters by Project Type, Data Year 1998

Project Type	Number of Projects Reported	Emission Reduction or Carbon Sequestration Reported		
		Carbon Sequestration (Metric Tons Carbon Dioxide)	Methane (Metric Tons)	Total (Metric Tons Carbon Dioxide Equivalent)
Coal Mining: Gas Recovery Using Gob Wells	1	—	33,072	**33,072**
Afforestation	8	3,422	—	**3,422**
Reforestation	97	49,667	—	**49,667**
Urban Forestry (Sequestration Only)	1	*	—	**
Forest Preservation	4	1,993,811	—	**1,993,811**
Woody Biomass Production and Other Agroforestry	1	35	—	**35**
Total	**112**	**2,046,935**	**33,072**	**2,080,007**

*Less than 0.5 metric tons.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Agriculture and Forestry Sector Highlights

103 Global ReLeaf Projects Reported by American Forests

All the projects reported by American Forests are part of its Global ReLeaf campaign, which sponsors the restoration of forest ecosystems that have been damaged by natural or human events. To date, 103 Global ReLeaf projects in 38 States have been reported, all of which involve reforestation and afforestation. Although the primary objective of Global ReLeaf is forest and habitat restoration, the projects also sequestered a reported 49,667 metric tons of carbon dioxide in 1998. American Forests reported its sponsorship of 18 new projects in 1998, including the following:

- **Dawson Demo Forest (Dawson County, Georgia).** This regeneration effort involved the planting of shortleaf and improved loblolly pine seedlings on 93 acres that suffered a southern pine beetle infestation and tornado damage. The reported carbon dioxide sequestration in 1998 was 484 metric tons.
- **Kula Forest Preserve (Maui, Hawaii).** The Tri-Isle Resource Conservation and Development Council planted 4,000 native koa, sandalwood, and ohia trees on the State-owned Kula Reserve to replace trees damaged by feral goats and pigs. The reported carbon dioxide sequestration in 1998 was 773 metric tons.
- **Nooksack (Whatcom County, Washington).** The Nooksack Salmon Enhancement Association planted native tree and shrub species on 55 acres of degraded riparian corridors within several watersheds in Whatcom County to improve stream habitat and increase salmon populations in the lowland streams. The reported carbon dioxide sequestered in 1998 was 92 metric tons.

45,200 Hectares of Forest Land Preserved in Central and South America

The World Parks Endowment reported three forest preservation projects located in Belize, Guatemala, and Ecuador that together have prevented the emissions of an estimated 9.2 million metric tons of carbon dioxide from 1991 through 1998.

- **Bladen Sanctuary (Belize).** The World Parks Endowment provided $100,000 to the Belize Audubon Society for the management of the Bladen Sanctuary, which includes 97,000 acres (38,800 hectares) of tropical montane cloud forest. Without the sanctuary, World Parks Endowment estimates that 30 percent of the land—all the fairly level areas—would have been converted to pasture and citrus farms between 1993 and 1998. According to this estimate, the project avoided releasing about 6.2 million metric tons of carbon dioxide over the 6-year period.
- **Sierra de las Minas Biosphere Reserve (Guatemala).** The Sierra de las Minas Reserve was created when World Parks Endowment provided Defensores de la Naturaleza the funding necessary to purchase 11,000 acres (4,400 hectares) of virgin tropical montane cloud forest. According to its report, Work Park Endowment's intervention prevented the purchase of the land by an organization that would have cleared it for cropland in 1991 and 1992. Establishment of the reserve avoided release of a reported total of 2.3 million metric tons of carbon dioxide.
- **Bilsa Biological Reserve (Ecuador).** The World Parks Endowment also participated in the creation of the 2,000-hectare Bilsa Biological Reserve in the Montañas de Mache in northwest Ecuador. According to the World Parks Endowment, this project represents the last significant opportunity to preserve Pacific slope wet forest in a region where 99 percent of the lowland wet forest has been cleared. The establishment of the reserve required $140,000 for land purchase and $100,000 for an endowment to fund the management of the reserve. The project was approved by the U.S. Initiative on Joint Implementation in December 1996. The World Parks Endowment reports that the preserved area would have been harvested over a 3-year period (1997-1999), resulting in the release of a total of 1.2 million metric tons of carbon dioxide.

Old-Growth Forest Preserved in Western Washington

According to Whatcom Land Trust's report, the Canyon Lake Creek Community Forest Project permanently protects approximately 303 hectares of alpine forest containing one of the oldest forest stands in the Pacific Northwest. With documented tree ages exceeding 800 years, the forest consists primarily of Pacific silver fir, Alaska yellow cedar, and mountain hemlock. The planned clear-cut logging of the tract would have released an estimated 609,382 metric tons of carbon dioxide.

Hydroponic Farm Fueled by Coal Mine Methane

Grayson Hill Farms reported using coal mine methane in its hydroponic and aquaculture farming operations. The recovered gas, which is 90 percent methane, is used in a 0.8 million Btu per hour cogeneration system. Grayson Hill Farms claims to have avoided methane emissions equivalent to 33,072 metric tons of carbon dioxide in 1998.